Effect of Integrated Cardiac Care - Public Quality Disclosure Analysis

Hsin-Hui Huang[1], Pei-Yu Chen[1], Ching-Feng Chiang[1], Pa-Chun Wang[1,2]
[1]Joint Commission of Taiwan, New Taipei City, Taiwan
[2]Cathay General Hospital, Taipei, Taiwan

Introduction

In recent years, aging population, multiple comorbidities, medical costs, and other health problems have become common global issues. Continuous and patient-focused healthcare are crucial for patients.

Cardiovascular diseases are the first cause of death globally, representing 31% of all global deaths. This indicates that the care of cardiovascular diseases is urgently needed. Hypertension, diabetes, and hyperlipidemias are risk factors for cardiovascular disease. In addition, lifestyles such as smoking and lack of exercise are risk factors for cardiovascular disease. Owing to the complexity in caring for heart diseases, integration of care is in great need.

The Joint Commission of Taiwan (JCT) developed our Disease-specific Care Certification (DSC) project in 2009, aiming to encourage integrated care in Taiwan.

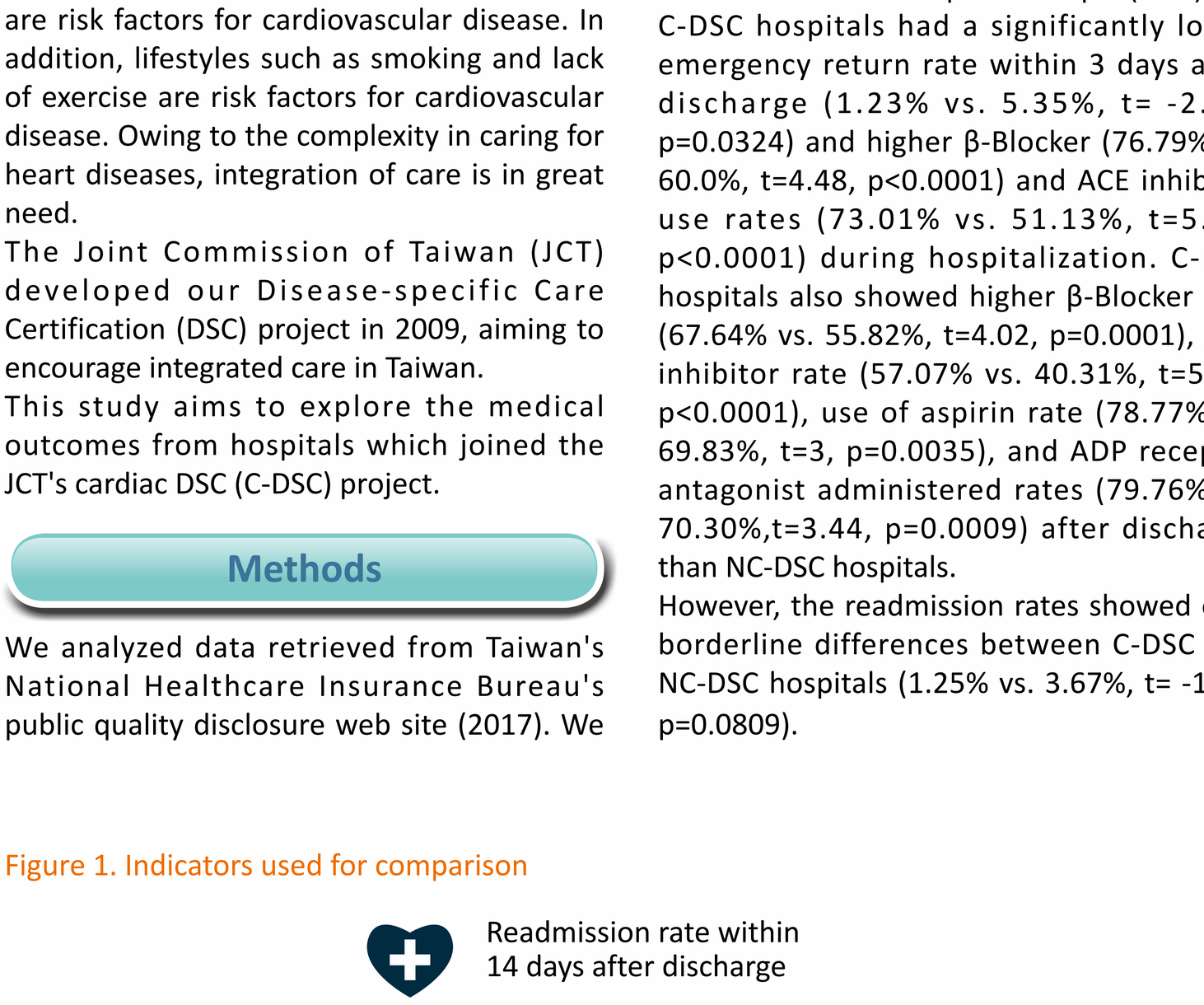
This study aims to explore the medical outcomes from hospitals which joined the JCT's cardiac DSC (C-DSC) project.

Methods

We analyzed data retrieved from Taiwan's National Healthcare Insurance Bureau's public quality disclosure web site (2017). We compared quality data from 20 C-DSC and 76 non-C-DSC (NC-DSC) hospitals.

Independent sample t-tests were applied to identify whether the C-DSC hospitals had better outcomes.SAS version 9.3 was used for data analysis.

Figure 1. Indicators used for comparison



Results

A total of 11 (57.89%) out of 20 C-DSC hospitals were medical centers and 9 (11.69%) were regional hospitals. Most C-DSC hospitals were located in metropolitan Taipei (40%).

C-DSC hospitals had a significantly lower emergency return rate within 3 days after discharge (1.23% vs. 5.35%, t= -2.18, p=0.0324) and higher β-Blocker (76.79% vs. 60.0%, t=4.48, p<0.0001) and ACE inhibitor use rates (73.01% vs. 51.13%, t=5.35, p<0.0001) during hospitalization. C-DSC hospitals also showed higher β-Blocker rate (67.64% vs. 55.82%, t=4.02, p=0.0001), ACE inhibitor rate (57.07% vs. 40.31%, t=5.46, p<0.0001), use of aspirin rate (78.77% vs. 69.83%, t=3, p=0.0035), and ADP receptor antagonist administered rates (79.76% vs. 70.30%,t=3.44, p=0.0009) after discharge than NC-DSC hospitals.

However, the readmission rates showed only borderline differences between C-DSC and NC-DSC hospitals (1.25% vs. 3.67%, t= -1.77, p=0.0809).

Table 1. Characteristics of C-DSC and NC-DSC hospitals

	C-DSC		NC-DSC	
	N	%	N	%
No.	20	100.00	76	100.00
Accreditation level				
Medical center	11	55.00	8	10.53
Regional hospital	9	45.00	68	89.47
Residential location				
Taipei	8	40.00	18	23.68
Northern	3	15.00	10	13.16
Central	4	20.00	14	18.42
Southern	3	15.00	16	21.05
Kaohsiung and Pingtung	2	10.00	14	18.42
Eastern	0	0.00	4	5.26

Table 2. Outcome of C-DSC VS. NC-DSC

Item	Average use %	T	P-value	
Emergency return rate within 3 days after discharge				
C-DSC	**1.23%**	**-2.18**	**0.0324**	*****
NC-DSC	5.35%			
Rate of β-Blocker during hospitalization				
C-DSC	**76.79%**	**4.48**	**<0.0001**	*******
NC-DSC	60.00%			
Angiotensin converting enzyme (ACE) inhibitor rate during hospitalization				
C-DSC	73.01%	5.35	<0.0001	***
NC-DSC	51.13%			
Use of β-Blocker rate after discharge				
C-DSC	67.64%	4.02	0.0001	***
NC-DSC	55.82%			
Use of ACE inhibitor rate after discharge				
C-DSC	57.07%	5.46	<0.0001	***
NC-DSC	40.31%			
Aspirin rate after discharge				
C-DSC	78.77%	3	0.0035	**
NC-DSC	69.83%			
Rate of Adenosine diphosphate (ADP) receptor antagonist administered after discharge				
C-DSC	79.76%	3.44	0.0009	***
NC-DSC	70.30%			
Readmission rate within 14 days after discharge				
C-DSC	1.25%	-1.77	0.0809	
NC-DSC	3.67%			

**p<0.05, **p<0.01, ***p<0.001.*

Conclusions

The publicly disclosed data show that C-DSC hospitals performed significantly better in guideline adherence while taking care of coronary artery disease patients. More studies are required to prove the outcome effect of integrated care.

Joint Commission of Taiwan

Contact Information: Ms. Hsin-Hui Huang
E-mail: hui.huang@jct.org.tw